

**Remarks**

In the outstanding office action, claims 1, 7, 8, 10-12, 66, 84-120 were presented for examination. Claims 84 -120 are new to the reissue application. The examiner has rejected the claims, which were previously allowed, after a second pair of eyes review in the United States Patent and Trademark Office raised the issue of surrender and recapture.

Generally, it is clear that the application of the doctrine of surrender and recapture is not appropriate here. Indeed, independent claim 67 from the original application and current independent claim 106 are substantially commensurate scope. The language at issue, "maximizes throughput and minimizes astigmatism," is substantially included in independent claims 111, 112, 117, and 128, and these claims thus clearly do not involve any possible question of surrender and recapture and should be allowed forthwith.

The remaining independent claims all recite language which was not at issue in the amendment and/or argument which resulted in allowance and limit the claims in significant ways unrelated thereto, and, accordingly, render application of the surrender and recapture doctrine inappropriate.

In addition, a number of amendments have been made in order to improve the form of the claims. It is believed that the claims mostly define the

invention, avoid recapture questions and avoid the prior art. Accordingly, allowance of the application is respectfully sought.

### The Rejection

More particularly, the office action notes that the language "a primary exit port being located... for receiving an order of light that maximizes throughput and minimizes astigmatism" had been added to obtain patentability in an amendment filed June 11, 1999 during the prosecution of the original patent application. It has been argued that any broadening of an element added to obtain allowance is impermissible where other elements of the claims remain unchanged (i.e. amendment from AB to ABC to obtain allowance precludes reissue of claim two ABC(broadened), even though ABC(broadened) is narrower than AB.

### The Law

However, even removal of an element added to obtain allowance during the original application is permitted if other aspects of the claims are materially narrowed. Under *In re Clement*, 45 USPQ2d 1161 (Fed. Cir. 1997) and *Pannu v. Storz Instruments*, 59 USPQ2d 1597 (Fed. Cir. 2001), a three-step test for determining surrender and recapture was set forth.

The first step is to determine whether and in what aspect the reissue claims are broader than the patent claims. The second step is to determine

whether the broader aspects of the reissue claim related to surrendered subject matter. The third step is to determine whether the reissue claim is materially narrowed in some other way.

There are two prongs to the third step in the test. Any new claim in the reissue, *as a whole*, cannot be as broad or broader in scope than any claim that was canceled or amended in an effort to define over the prior art in the prosecution of the original patent. Claim scope that was canceled or amended is deemed surrendered and therefore barred from reissue. *In re Clement*. However, if the new claim has limitations which limit other aspects of the claims in other ways, as a whole the claim is narrower and recapture is not involved.

Second, does the reissue claim only entirely omit any limitation that was added or argued during the original prosecution to overcome a prior art rejection. If this is the case, there would be recapture.

Thus, the applicant avoids recapture if there is any narrowing in aspects of the claims which were not at issue during the prosecution of the original patent.

Moreover, as long as a limitation, which was added to overcome rejection, is not completely removed, it is permissible for a reissue claim to claim a broader version of the limitation added or argued during the original

prosecution to overcome an art rejection without running afoul of the surrender and recapture rule. See *Ex Parte Eggert*, 67 USPQ2d 1716 (Bd. Pat. App. & Inter. 2003) (precedential).

The Original Prosecution

Claim 1 of the original application reads as follows:

1. A modified concentric spectrograph comprising:

a grating having an optical axis, a meridian plane, and a concave surface, said meridian plane having a first side and a second side;  
a lens having a substantially planar surface, a convex surface, and an optical axis, wherein said convex surface is facing said concave surface, said optical axes being substantially coaxial;

a primary entrance port being located substantially out of said meridian plane toward said first side; and

a primary exit port being located substantially out of said meridian plane toward said second side for receiving an order of light that maximizes throughput and minimizes astigmatism.

This claim is a result of the following amendment made in the reply of the applicant dated August 11, 1999:

1. A modified concentric spectrograph comprising:

a grating having an optical axis, a meridian plane, and a concave surface, said meridian plane having a first side and a second side;

a lens having a substantially planar surface, a convex surface, and an optical axis, wherein said convex surface is facing said concave surface, said optical axes being substantially coaxial;

a primary entrance port being located substantially out of said meridian plane toward said first side; and

a primary exit port being located substantially out of said meridian plane toward said second side for receiving an order of light that maximizes throughput and minimizes astigmatism.

The above amendment was made in response to an office action dated April 27, 1999, which stated that the claims were rejected under 35 USC 112 because the language in the claims was not supported by the specification and the application. More particularly, the Office has pointed to the following language in claim 1 prior to entry of the amendment dated August 11, 1999: "a primary exit port... for providing a substantially anastigmatic flat field image near said primary exit port over a spectral range."

The Office took the position that the location of the exit port does not provide substantially anastigmatic flat field image near the exit port, but rather that this is achieved by placing the exit port in a position where it

"receives an order of light that maximizes throughput and minimizes astigmatism."

#### Potentially Allowable Alternatives

In other words, the idea of providing an exit port which produces a flat field image was rejected as nonsensical. Thus, other language which addresses the rejection but does not broaden the claim should be acceptable as not involving any recapture. In addition, a claim which limits other aspects of the allowed subject matter is also allowable as not constituting recapture of previously surrendered claim scope.

#### The Language Currently at Issue

Adding the language "receiving an order of light that maximizes throughput and minimizes astigmatism" solved the support problem in the original patent application by importing language from the specification into the claims. This language has been removed in the current version of the claims, as amended in the present response, which recites the relevant limitation as follows:

an exit port located to receive a non-zero order of diffracted light emerging from said lens planar surface at a location out of said meridian plane on the other side of the meridian plane from the incident light, without significant mixing with adjacent orders of diffracted light.

The present claim language does not broaden or narrow the concept respecting the maximization of throughput or the minimization of astigmatism. Rather, it is joined to a completely different aspect of the invention, namely, the placement of the slit to avoid mixing with adjacent orders of diffracted light.

Moreover, while the limitation of "without significant mixing with adjacent orders of diffracted light" does not limit the claim to "receiving an order of light that maximizes throughput and minimizes astigmatism", there are other material limitations in the claim.

First, the claim is limited to a system in which the grating and the lens are substantially concentric. While this limitation is in the preamble of claim 1 of the issued patent, it is of no patentable effect as it is not referred to later on in the claim. At best, the claim recites that the optical axes of the lens and the grating substantially coincide.

Thus, the limitation with respect to throughput and astigmatism has been removed and other aspects of the claim have been limited, and claim 1 does not, accordingly, involve recapture. More particularly, before amendment the claim constituted elements AB (C(nonsensical and nonlimiting)), and was later narrowed to achieve allowance to AB (C(making sense and limiting the claim)). As amended the claim constitutes elements

ABD. Per se element D is different from element C and significantly limits AB, thus clearly, per se, not involving recapture.

Viewed another way, elements C in the claim before the amendment, namely "providing a substantially anastigmatic flat field image near said primary exit port over a spectral range", was held to be nonsensical and nonlimiting. Thus, the present language as a new element, namely an "exit port located to receive a non-zero order diffracted light... without significant mixing with adjacent orders of diffracted light."

It is clear that the current language of claim 1, as amended, "an exit port located to receive a non-zero order of diffracted light emerging from said lens planar surface at a location on the other side of the meridian plane from the incident polychromatic light, without significant mixing with adjacent orders of diffracted light" clearly narrows the claim language in ways other than the language canceled to obtain allowance, namely "a primary exit port being located substantially out of said meridian plane toward said second side for providing a substantially anastigmatic flat field image near said primary exit port over a spectral range." Accordingly, there is no recapture.

In the present version of claim 1, the claim language clearly defines over the prior art in its recitation that the exit port is positioned to avoid significant mixing with adjacent orders of light. This has nothing to do with



maximization of throughput or minimization of astigmatism (as was in the issued claim) or the flatness of the field image as in the claim as originally issued. Accordingly, it is clear that this limitation renders claim 1 irrelevant to any question of recapture. Accordingly, it is believed that claim 1 is clearly in condition for allowance at this time.

In addition, claim 1 recites that the lens convex surface is substantially concentric with the grating concave surface, compared to the present version of claim 1 in the patent, which both prior to and after the amendment which resulted in allowance, was limited to a lens convex surface and a grating concave surface with optical axes which are substantially coaxial. Accordingly, for this reason also, it is believed the claim 1 is most clearly in condition for allowance.

Dependent claims 7, 8, 10, 11, 12, 84-104 and 121-124 all ultimately depend from claim 1 and limit that claim. Accordingly, they are in condition for allowance. Moreover, they limit claim 1 in significant ways which are different from the amendment which resulted in allowance. Accordingly, for this reason alone they are believed to clearly not involve recapture.

Claim 66, as presently amended, recites receiving a nonzero order of diffracted light without significant mixing with adjacent orders of diffracted light. This limitation is unrelated to the limitation argued in order to obtain

allowance of the original patent application. Accordingly, as a matter of law, no recapture is involved, and the claim is presently a condition for allowance.

Claim 105, which depends on claim 66, in addition to being allowable as being dependent on claim 66 and further limiting it, is also allowable in so far as it recites significant limitations to claim 66 which are different from those at issue in the amendment which resulted in allowance of the original application. Accordingly, claim 105 is most clearly in condition for allowance.

While Claim 106 does not have language with respect to minimization of astigmatism and maximization of throughput, neither does originally allowed method claim 67 of the original application. Both of these claims are drawn to a method in accordance with the invention having two entrance ports and two exit ports. Accordingly, there is no question of surrender and recapture involved here. Generally, this claim has been changed largely to address formal issues. Clearly, given the scope of original claim 67, it is believed most clear that claim 106 should be allowed as it does not involve any question of surrender and recapture.

Claims 107-110 limit claim 106 and are thus also clearly in condition for allowance. Moreover, they recite significant limitations not at issue in the amendment which resulted in the allowance of the underlying original patent

and, accordingly, for this reason also are not correctly rejected under the surrender and recapture doctrine.

The language at issue, "maximizes throughput and minimizes astigmatism," is substantially included in independent claims 111, 112, 117, and 128, and these claims thus clearly do not involve any possible question of surrender and recapture. Allowance of the same is respectfully sought. Claims 113-116 depend from claim 112, further limit that claim and are, accordingly, allowable. Moreover, such limitations relate to features of the invention which were not at issue in the amendment which resulted in allowance of the original application and, accordingly, for this reason alone are also believed to be clearly not subject to the surrender and recapture rule.

In similar fashion, claims 118-120 depend from claim 117 and further limit that claim in a way which makes them also most clearly not subject to the surrender and recapture rule.

Claim 129 contains limitations that the exit port and the entrance port are on opposite sides of a second plane which is both perpendicular to the meridian plane and passes through the optical axis of the grating. This limitation relates to features of the invention which were not at issue in the amendment which resulted in allowance of the original application and,

accordingly, this claim 129 is clearly not subject to the surrender and recapture rule.

If the examiner wishes to discuss any aspect of this response, the Examiner is invited to contact the undersigned at the telephone number indicated below. the Commissioner is authorized to charge any additional fees required or to credit any overpayment to Deposit Account No. 20-0809.

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Respectfully submitted,

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